

IN THE CLAIMS:

Please CANCEL claims 1-16 without prejudice to or disclaimer of the recited subject matter.

Please ADD new claims 17-32, as follows. For the Examiner's convenience, all claims currently pending have been reproduced below.

1-16. (Canceled)

17. (New) An apparatus for detecting a position of a target mark out of a plurality of marks in a region of an object to obtain a position of the region of the object, said apparatus comprising:

a scope configured to sense a first image of the object at a first magnification and a second image of the object at a second magnification higher than the first magnification; and

a processor configured to extract, from the first image, a position of a first mark out of the plurality of marks and a feature of a region outside the first mark, to identify the first mark based on the extracted feature, to extract, from the second image, a position of the target mark, to evaluate reliability of the extracted position of the target mark, to select a second mark, different from the target mark, from the plurality of marks as a new target mark based on the evaluated reliability and the identified first mark, in order to extract a position of the selected second mark from an image sensed by said scope at the second magnification.

18. (New) An apparatus according to claim 17, wherein the feature corresponds to an auxiliary pattern, which is included in the object and associated with the first mark.

19. (New) An apparatus according to claim 18, wherein the plurality of marks have different auxiliary patterns, respectively.

20. (New) An apparatus according to claim 18, wherein the auxiliary pattern is connected to the first mark.

21. (New) An apparatus according to claim 18, wherein the auxiliary pattern is surrounded by the first mark.

22. (New) An apparatus according to claim 17, wherein the feature corresponds to a position of the first mark relative to another mark out of the plurality of marks.

23. (New) An apparatus according to claim 17, wherein the feature corresponds to a position of the first mark relative to plural marks out of the plurality of marks.

24. (New) An apparatus according to claim 17, wherein said processor is configured to select the second mark as the new target mark from a plurality of marks, out of the plurality of marks, extracted by said processor from the first image.

25. (New) An apparatus according to claim 24, wherein said processor is configured to select the second mark as the new target mark based on a contrast of each of the extracted plurality of marks.

26. (New) An apparatus according to claim 17, wherein the object is a substrate on which a device is to be formed.

27. (New) An apparatus according to claim 26, further comprising a stage configured to mount the substrate and to move.

28. (New) An apparatus according to claim 27, further comprising a controller configured to control a position of said stage based on the extracted position of the second mark.

29. (New) An apparatus according to claim 17, wherein the object is a first substrate on which a device is to be formed, and a mark corresponding to the second mark is initially selected as the target mark with respect to a subsequent substrate in a lot including the first substrate.

30. (New) An exposure apparatus for exposing a substrate to a pattern, said apparatus detecting a position of a target mark out of a plurality of marks in a region of the substrate to obtain a position of the region of the substrate, said apparatus comprising:

- a stage configured to mount the substrate and to move;
- a scope configured to sense a first image of the substrate at a first magnification and a second image of the substrate at a second magnification higher than the first magnification;
- a processor configured to extract, from the first image, a position of a first mark out of the plurality of marks and a feature of a region outside the first mark, to identify the first mark based on the extracted feature, to extract, from the second image, a position of the target

mark, to evaluate reliability of the extracted position of the target mark, to select a second mark, different from the target mark, from the plurality of marks as a new target mark based on the evaluated reliability and the identified first mark, in order to extract a position of the selected second mark from an image sensed by said scope at the second magnification; and

a controller configured to control a position of said stage based on the extracted position of the second mark.

31. (New) A method of manufacturing a device, said method comprising steps of:

exposing a substrate to a pattern using an exposure apparatus as defined in claim 30;

developing the exposed substrate; and

processing the developed substrate to manufacture the device.

32. (New) A method of detecting a position of a target mark out of a plurality of marks in a region of an object to obtain a position of the region of the object, said method comprising steps of:

sensing a first image of the object at a first magnification;

sensing a second image of the object at a second magnification higher than the first magnification;

extracting, from the first image, a position of a first mark out of the plurality of marks and a feature of a region outside the first mark;

identifying the first mark based on the extracted feature;

extracting, from the second image, a position of the target mark;

evaluating reliability of the extracted position of the target mark;  
selecting a second mark, different from the target mark, from the plurality of marks as a new target mark based on the evaluated reliability and the identified first mark; and  
extracting a position of the selected second mark from an image sensed at the second magnification.